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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,457	08/15/2003	Nikolaus Martin Erlmann	1-24615	2141
4859	7590	06/02/2004	EXAMINER	
MACMILLAN SOBANSKI & TODD, LLC ONE MARITIME PLAZA FOURTH FLOOR 720 WATER STREET TOLEDO, OH 43604-1619			THOMPSON, KENNETH L	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,457

Applicant(s)

ERLMANN, NIKOLAUS MARTIN

Examiner

Kenn Thompson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 10, 13-15, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 4, 8, 9, 11, 12 and 16-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claim 15 is objected to because of the following informalities:

The recitation "Hirth-end" in line 2 is misleading. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7, 10 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamlin, U.S. 1,676,436.

Regarding claim 1, Hamlin discloses in figures 1-4 a flange yoke for a universal joint, especially for a universal joint for the transmission of high torques. Hamlin discloses a flange element (1) having a longitudinal axis, two first attachment faces (8) that are arranged offset to each other by 180 degrees on a first end face of the flange element on a common circumference around the longitudinal axis. Hamlin discloses a connection face (inner body of 2) that is arranged on a second end face (2) of the flange element by which the flange element is connectable to a counter flange (20). Hamlin discloses and two bearing elements (10), each having a bearing bore (12) that is arranged co-axially on a common bore axis that intersects the longitudinal axis of the flange element at a right angle. Hamlin discloses a second attachment face (outer edge of 10) that abuts one of the first attachment faces (8) of the flange element,

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and at least two blind holes (13) with internal threads (at 14, fig 3; blind holes are not claimed to have internal threads therein) that extend parallel to the longitudinal axis of the flange element starting from the second attachment face. Hamlin discloses for each blind hole (13) a through bore (14) is arranged that extends parallel to the longitudinal axis in the flange element, wherein the through bores respectively start from a first clamping face (edge of 2 at 14) and end in one of the first attachment faces (8), and wherein attachment screws (15) are passed through the through bores and are supported, respectively, via a screw head on the respective first clamping face and sit in the blind holes.

As to claim 2, Hamlin discloses in that respectively, starting from the first clamping face (edge of 2 at 14), the through bores (14) merge in a bore (interior of 2) having a larger diameter and that ends in the connection face.

As to claim 3, Hamlin discloses the flange element (1) has an outer circumferential face that is provided with recesses (9) forming the first clamping face.

As to claim 5, Hamlin discloses the first attachment faces (8) and the second attachment faces (outer edge of 10) have means for the transmission of forces in a plane arranged at a right angle to the longitudinal axis, and further have means (9) for centering the bearing elements.

As to claim 6, Hamlin discloses the first attachment faces (8) of the flange element have, respectively, a groove (9) that extends radially to the longitudinal axis, and that the second attachment faces (outer edge of 10) of the bearing elements have, respectively, a correspondingly formed formation (11).

As to claim 7, Hamlin discloses the first attachment faces have toothings (11), and that the second attachment faces have toothings (9) formed complimentary to the toothings formed in the first attachment faces.

As to claim 10, Hamlin discloses the first attachment faces (8) have projections (9) against which the bearing elements are supported in the radial direction.

As to claim 13, Hamlin discloses the teeth of the toothing (9,11), extend respectively, parallel to each other in two areas (opposite faces of 9 and 11) and that an extension of the teeth of the one area and of the teeth of the other area intersect each other at an angle.

As to claim 14, Hamlin discloses the connection face (inner body of 2) has centering means (22) for centering the flange element (1) in reference to a longitudinal axis of the counter-flange (20).

As to claim 15, as best understood by the Examiner, Hamlin discloses the centering means (22) are represented by a Hirth-end face serration (outer threaded region of 22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamlin, U.S. 1,676,436.

As to claims 20 and 21, Hamlin discloses the flange element and the bearing elements. Hamlin discloses the claimed invention except for the flange being nitration hardened and the bearing being case hardened. However it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a flange that has been nitration hardened and a bearing that has been case hardened, since it has been held to be within the general skill

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of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

Claims 4, 8, 9, 11, 12 and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest all the claimed subject matter including the flange element having an outer circumferential face that is provided with a circumferential groove forming the first clamping face.

The prior art of record does not disclose or suggest all the claimed subject matter including the teeth of the toothings have, respectively, a first tooth flank that extend at a steep angle to a plane, are arranged at a right angle to the longitudinal axis, and have, respectively, a second tooth flank that extends at a low-gradient angle to the plane.

The prior art of record does not disclose or suggest all the claimed subject matter including the teeth of the toothing extend parallel to the bore axis.

The prior art of record does not disclose or suggest all the claimed subject matter including key and groove connections are provided in the first attachment faces and in the second attachment faces.

The prior art of record does not disclose or suggest all the claimed subject matter including the teeth of the toothing are arranged in a plane formed between the longitudinal axis and the bore axis.

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The prior art of record does not disclose or suggest all the claimed subject matter including the flange element is connectable to the counter-flange by means of connection screws, and that through bores, through which the connection screws are insertable, are provided in the flange element.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schultenkamper, U.S. 4,191,487 discloses similar teeth.

Warner, U.S. 2,255,604 and Joyner, U.S. 4,522,608 disclose a merged through bore.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 703 306-5760. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J Bagnell can be reached on 703 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


26 May 2004